

Quiz (1)

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Time duration: 10 minutes

Q1] Divide:

1110010 by 1001

(4)

$$\begin{array}{r}
 1100 \overline{) 1110010} \\
 \underline{1001} \\
 1010 \\
 \underline{1001} \\
 1100 \\
 \underline{1001} \\
 1100 \\
 \underline{1001} \\
 11
 \end{array}$$

Q2] Convert $(63)_{10}$ to binary.

(2)

64	32	16	8	4	2	1
1	1	1	1	1	1	1

$$(63)_{10} = (111111)_2$$

(4)

Q3] add in 2's complement, use a word length of 6 bits including sign and indicate if over flow occur:

[1] $(-25) + 18 = -7$

[2] $21 + 11 =$

$$(-25)_{10} = \begin{array}{|c|c|c|c|c|c|} \hline 1 & 1 & 1 & 1 & 0 & 0 & 1 \\ \hline \end{array}$$

$$(+18)_{10} = \begin{array}{|c|c|c|c|c|c|} \hline 0 & 1 & 0 & 0 & 1 & 0 \\ \hline \end{array}$$

$$(+11)_{10} = \begin{array}{|c|c|c|c|c|c|} \hline 0 & 0 & 1 & 0 & 1 & 1 \\ \hline \end{array}$$

$$(+21)_{10} = \begin{array}{|c|c|c|c|c|c|} \hline 0 & 1 & 0 & 1 & 0 & 1 \\ \hline \end{array}$$

$$(-25)_{10} = (100111)_{2's \text{ comp}}$$

[1] 100111

$+010010$

$(111001)_{2's}$

(100111) Sign & Mag.

-7 No overflow

Correct answer.

[2] 001011

$+010101$

100000

Not correct
overflow